

PTO 03-3472 HAMT

Japanese Patent  
Document No. 09-224895

**CLEANING SHEET**

[掃除用シート]

Tomita Katsushi

UNITED STATES PATENT AND TRADEMARK OFFICE  
Washington, D.C. 05/2003

Translated by: Schreiber Translations, Inc.

## **Bibliographic Fields**

### **Document Identity**

(19) [Publication Office]

Japan Patent Office (JP)

(12) [Kind of Document]

Unexamined Patent Publication (A)

(11) [Publication Number of Unexamined Application]

Japan Unexamined Patent Publication No. H9-224895

(43) [Publication Date of Unexamined Application]

2 September 1997 (H.9)

(43) [Publication Date of Unexamined Application]

2 September 1997 (H.9)

(54) [Title of Invention]

### **CLEANING SHEET**

(51) [International Patent Classification, 6th Edition]

A47L 13/16

[FI]

A47L 13/16 C

[Number of Claims]

5

[Form of Application]

FD

[Number of Pages in Document]

4

[Request for Examination]

Not Requested

(21) [Application Number]

Japan Patent Application No. H8-67317

(22) [Application Date]

28 February 1996 (H.8)

(71) [Applicant]

[Identification Number]

115108

[Name]

**UNI-CHARM CORPORATION (DB 69-059-1011 )**

[Address]

182 Shimowake, Kanao-cho, Kawanoe-shi, Ehime

(72) [Inventor]

[Name]

Tomita Katsushi

[Address]

1364 Sakuta-cho Otsu, Kannonji-shi, Kagawa

(74) [Attorney(s) Representing All Applicants]

[Patent Attorney]

[Name]

Shirahama Yoshiharu

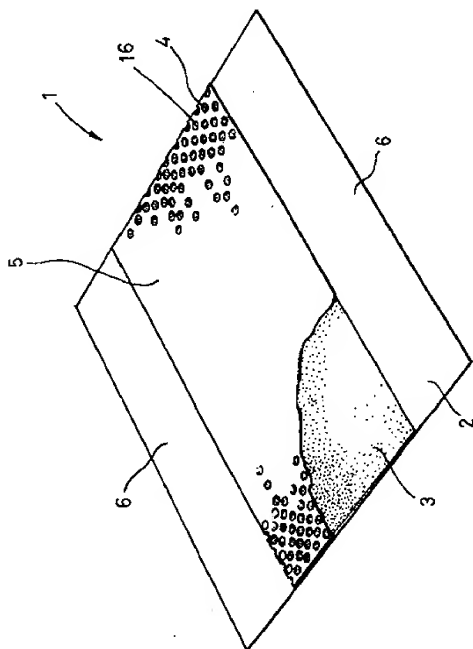
(57) [Abstract]

[Problems to be Solved by the Invention]

To obtain a cleaning sheet, which smoothly slides on the surface of floor, and strongly holds dirt.

[Means to Solve the Problems]

At least one surface of the cleaning sheet 1 for wiping stain or dirt has a first surface area 5, which is weakly adhesive or non-adhesive, and a second surface area 4, which is strongly adhesive. When the first surface area 5 contacts with the floor surface, the second surface is above the floor surface.



[Claim(s)]

[Claim 1]

A cleaning sheet for wiping stain or dirt on the floor surface, comprising:  
 a first surface area provided on at least one surface of said cleaning sheet; and  
 a second surface area provided on said surface of said cleaning sheet, which is positioned upward from the floor surface when said first surface area contacts with the floor surface,  
 wherein said first surface area is relatively weak adhesive or non-adhesive, and said second surface area is relatively strong adhesive.

[Claim 2]

A cleaning sheet of claim 1, further comprising:  
 a base sheet;  
 a two-sided adhesive sheet, which adheres with at least one surface of said base sheet; and  
 mesh fabric, which adheres with said adhesive sheet,  
 wherein the upper surface of said mesh fabric forms said first surface area, and the adhesive sheet portion exposed through the mesh fabric forms said second surface area.

[Claim 3]

A cleaning sheet of claim 1, wherein said first surface area and said second surface area are alternately arranged in at least one direction.

[Claim 4]

A cleaning sheet of claim 1, wherein said first surface area and said second surface area continuously stretch in the same direction.

[Claim 5]

A cleaning sheet of claim 1, wherein the elasticity of said first surface area in the thickness direction is larger than that of said second surface area.

[Description of the Invention]

[0001]

[Technological Field of Invention]

The present invention relates to a cleaning sheet for wiping stain or dirt on the floor surface.

[0002]

[Prior Art]

Conventionally, as this type of sheet, the one, which is made of napped non-woven fabric, the one, which is made of non-woven fabric containing oil solution, the one, in which adhesive is applied on a sheet of a base material, and so on are known.

[0003]

[Problems to be Solved by the Invention]

Among those known cleaning sheets, the napped non-woven fabric slides on floor surface well, but can not hold relatively heavy dirt, such as sand grain, so that it is not appropriate to use for wiping such type of dirt.

The non-woven fabric containing oil solution has better holding ability, but is not satisfactory.

The cleaning sheet with adhesive is good in holding dirt, but does not smoothly slide on the floor surface because of its adhesion.

In addition, this cleaning sheet sometimes adheres to a hand, and sometimes it is troublesome to use.

[0004]

In view of the above problems, the objective of the present invention is to provide a cleaning sheet, which is excellent in holding dirt, smoothly slides on the floor surface, and does not adhere to a hand and is easy to use.

[0005]

[Means to Solve the Problems]

The cleaning sheet to solve the above problems in this invention is the one for wiping stain or dirt on floor surface.

In this scope, the cleaning sheet of the present invention is featured by having a first surface area on at least one surface of the sheet, and a second surface area on the same surface as the first surface area. The second surface area is positioned above the floor surface when the first surface area contacts with floor surface. The first surface area is relatively weakly adhesive or non-adhesive, and the second surface area is relatively strongly adhesive.

[0006]

[Working Example(s)]

The detail of the cleaning sheet of the present invention is described below, referring to the annexed drawings.

[0007]

The cleaning sheet 1, which is shown in a partial perspective view of Fig. 1, is comprised of a base sheet 2, which is made of non-woven fabric, an intermediate sheet 3, which is a two-sided adhesive sheet, and a mesh surface sheet 5, which has weaker adhesiveness than the sheet 3 or no adhesiveness.

The surface sheet 5 has many through holes 4, and adheres with the base sheet 2 through the intermediate sheet 3. The adhesive surface is exposed through the through holes on the upper side of the intermediate sheet 3.

In the figure, the intermediate sheet 3 and the surface sheet 5 are almost same size and overlapped each other. The length of the base sheet is same as that of the intermediate sheet 3 and the surface sheet 5, but the base sheet has larger width and side edge parts 6, which extend from the left and right edges of the sheets 3, 5.

[0008]

Fig. 2 is a perspective view of the cleaning sheet 1, which is attached to a tool for cleaning the floor surface.

The tool is comprised of a flat plate part 13 and an arm 14, which is attached to the flat plate part so as to be movable.

The cleaning sheet 1 is put on the lower surface of the flat plate part 13. The side edges 6 are folded onto the upper surface of the flat plate part 13, and fixed with clips so as to be attachable/detachable.

The tool 11 has the arm 14, and the user can wipe the floor surface with the surface sheet 5 of the cleaning sheet 1.

[0009]

With the cleaning sheet attached to the tool, relatively light dirt, such as dust, is caught by entanglement with the non-woven fabric of the surface sheet. If the surface sheet 5 has adhesive, the dirt is caught by its adhesion.

Dirt, which is relatively heavy and difficult to entangle with the fiber, such as sand grain, is caught in the through hole 4 of the surface sheet 5, and held on the adhesive surface of the intermediate sheet in the through hole 4.

To easily catch dirt, the non-woven fabric used for the surface sheet 5 can be napped, made of crimped fiber to make noble appearance, or can contain oil solution.

In addition, the depth of the through holes 4 can be changed by changing the thickness of the surface sheet 5, but the depth is preferably the one, such that the elasticity (cushioning) in the thickness direction is relatively good, and the adhesive surface of the intermediate sheet 3 properly contacts with floor surface no matter with the depth of the through hole 4.

With this cleaning sheet 1, dirt is scraped with the edge 16 of the through hole 4, and the scraped dirt is caught in the through hole 4.

[0010]

The surface sheet 5 of such cleaning sheet 1 has weaker adhesiveness than the intermediate sheet 3 or has no adhesiveness, such that it can smoothly slide on floor surface.

[0011]

When the cleaning sheet 1 is attached to the tool 22, the adhesive surface will not adhere to a finger as long as it is held with fingers such that the fingers do not touch the intermediate sheet 3.

If the cleaning sheet 1 is not a type of attaching to the tool 11, the side edge parts 6 are eliminated, so the base sheet 2 can be the same size as the intermediate sheet 3 and the surface sheet 5.

[0012]

Fig. 3 is similar drawing to Fig. 1, which illustrates an embodiment of the present invention.

With this cleaning sheet 1, many disks 17, which cover the intermediate sheet 3, contact with floor surface, in place of the surface sheet 5 in Fig. 1.

The disks 17 are arranged on the upper surface of the intermediate sheet in four directions with a certain distance. Individual disk is formed by punching non-woven fabric or felt with required thickness.

Since dirt enters between the disks and reaches the center part of the sheet 1 when floor surface is wiped with this sheet 1, more dirt can be caught at the side surface of the disks 17 or intermediate sheet 3 in comparison with the cleaning sheet in Fig. 1.

For this reason, the surface area of the sheet 1 can be effectively used.

[0013]

Fig. 4 is similar drawing to Fig. 3, which illustrates another embodiment of the present invention.

With this cleaning sheet 1, in place of the disks 17, several strips 18, which are horizontally arranged in one direction, cover the intermediate sheet 3, and contact with floor surface.

For the strips 18, a sheet of fiber, such as non-woven fabric or felt, which has required thickness and is cut to have required width, or filament or split fiber with relatively larger diameter or bundle of those can be used.

[0014]

The surface sheet in Fig. 1, or disks 17 or strips 18 in Figs. 3, 4, which cover the adhesive surface and is used to scrub floor surface, can be adhered to the intermediate sheet 3 with the adhesion of the sheet 3.

The intermediate sheet 3 and the surface sheet can be provided on the both sides of the base sheet 2, so that the sheet can be flipped and the other surface can be used when one surface is stained.

Appropriate materials other than those shown in the figures can be used for the base sheet and intermediate sheet.

[0015]

The cleaning sheet is suitable to use for cleaning the floor surface, but it can be used for cleaning other appropriate places, such as wall surface and ceiling surface.

[0016]

[Effects of the Invention]

Since the cleaning surface of the cleaning sheet of the present invention has a weak adhesive surface/non-adhesive surface, which contacts with floor surface, and a strong adhesive surface, which does not contact with floor surface, it smoothly slides on the floor surface and has strong dirt/stain catching effect.

Since the cleaning sheet of the present invention does not adhere to a hand, it is easy to handle.

[Brief Explanation of the Drawing(s)]

[Figure 1]

Partial perspective view of the cleaning sheet.

[Figure 2]

Perspective view of the cleaning sheet when it is used.

[Figure 3]

Similar view to Fig. 1, which illustrates an example of the embodiment of the present invention.

[Figure 4]

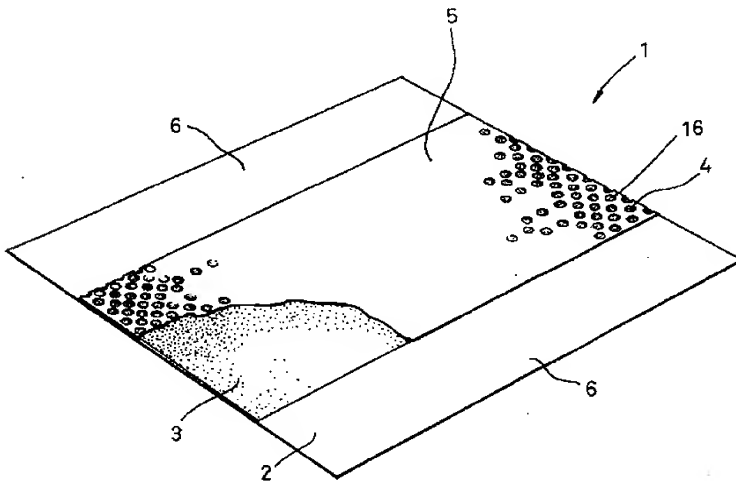
Similar view to Fig. 1, which illustrates another example of the embodiment of the present invention.

[Explanation of Symbols in Drawings]

cleaning sheet	1
	17
first surface area (disk)	18
first surface area (strip)	2
base sheet	3
intermediate sheet (two-sided adhesive sheet)	4
second surface area	4
first surface area (non-woven fabric)	5

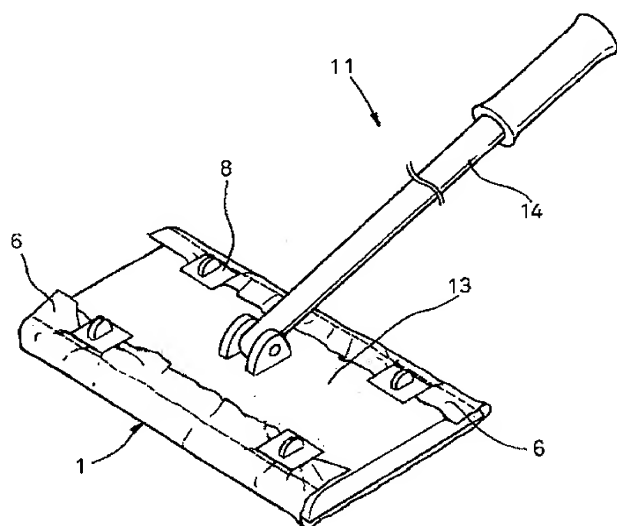
## Drawings

[Figure 1]

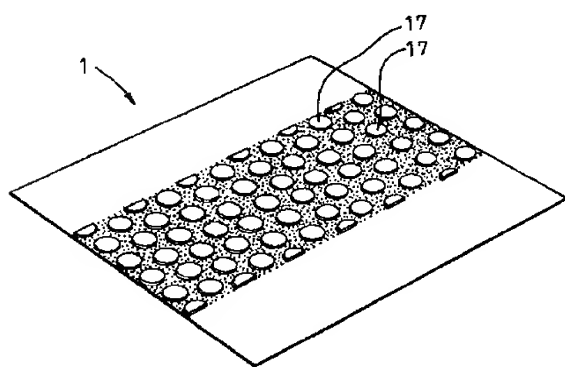




[Figure 2]



[Figure 3]



[Figure 4]

